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Just Another After-School Program? A Cross-Sectional Look at Whether Access to Educational Resources and Mentorship via Casa de Amistad Improves Students' Academic Outcomes in the San Dieguito School District

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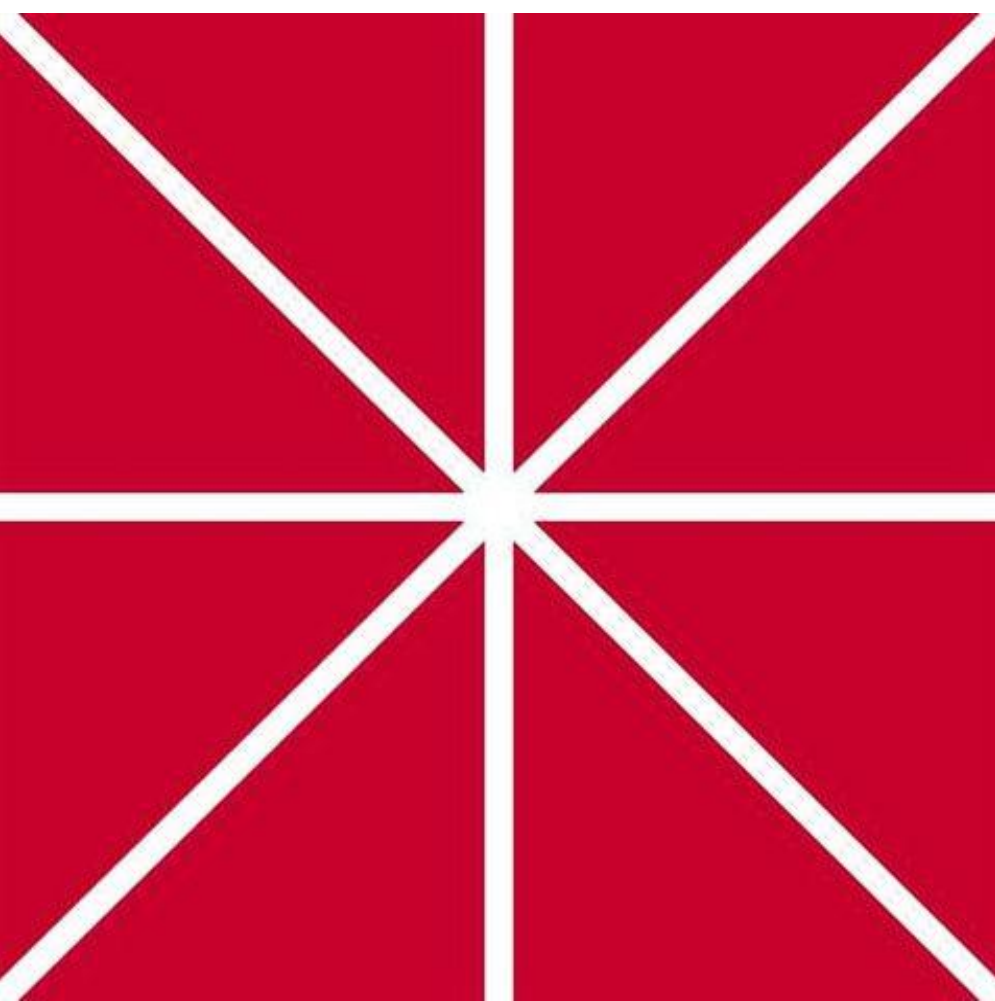
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Just Another After-School Program?

A cross-sectional look at whether access to educational resources and mentorship via Casa de Amistad improves students’ academic outcomes in the San Dieguito School District

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Introduction:

Since beginning in 1997, Casa de Amistad’s academic mentoring program has grown from serving three students on its first night to over 230 underserved children, teens and their parents annually. Students participating in Casa de Amistad (Casa) are from school districts throughout coastal North County San Diego. In the past 16 years, teachers in the district have noticed an increase in homework completion and classroom participation, as well as an improvement in grades and test scores among students who participated in Casa. This study was designed to further research the performance and needs of Casa de Amistad’s students in an effort to refine and grow the program. After the 2014-2015 academic year, 185 parents and 143 students were surveyed.

Section One: Homework Breakdown

Using the data and a two-way contingency table made from R Commander, we found that of the 143 students, 61.5% of those who only receive help from Casa de Amistad do not struggle with their homework and of the students who do struggle with their homework, only 12.8% have Casa de Amistad as their only source of help.

Table 1.		No homework help other than Casa		
		No	Yes	Total
Difficulty with homework	No	38 (52.8%)	8 (61.5%)	46 (100%)
	Yes	34 (47.2%)	5 (38.5%)	39 (100%)
Total		72 (100%)	13 (100%)	85 (100%)

According to a Stanford study, 56 percent of students struggle with homework and consider it a stressor¹. Casa de Amistad’s students not only struggle less with homework than the average student, but the mentoring program alone reduces students’ difficulty with homework. This benefit is multifold. In fact, students who had success with homework also had success being organized, a crucial academic and life skill.

Table 2.		Success with being organized		
		No	Yes	Total
Success with homework	No	23 (43.4%)	7 (21.9%)	48 (100%)
	Yes	30 (56.6%)	25 (78.1%)	37 (100%)
Total		53 (100%)	32 (100%)	85 (100%)

Section Two: Math and Science Breakdown

The 143 students surveyed were asked for three areas they had difficulty with, three areas they had success in and who, other than Casa de Amistad, helps them with their homework, among other things. We used this data and R Commander to create a two-way contingency table to determine Casa de Amistad’s effects on certain subjects. The data found that of the students who struggle with science, only 20.8% have Casa de Amistad as their only source of help and of the students who struggle with math, only 13.5% have Casa de Amistad as their only source of help.

Table 3.		No homework help other than Casa		
		No	Yes	Total
Difficulty with math	No	27 (37.5%)	6 (46.2%)	33 (100%)
	Yes	45 (62.5%)	7 (53.8%)	52 (100%)
Total		72 (100%)	13 (100%)	85 (100%)

Table 4.		No homework help other than Casa		
		No	Yes	Total
Difficulty with science	No	53 (73.6%)	8 (61.5%)	46 (100%)
	Yes	19 (26.4%)	5 (38.5%)	39 (100%)
Total		72 (100%)	13 (100%)	85 (100%)

From this we can conclude that in these two subject areas, Casa de Amistad greatly reduces student’s difficulty, thus positively contributing to their overall academic success.

Table 5.		Parent(s) help with homework		
Among Casa students with no sibling help		No	Yes	Total
Difficulty with homework	No	19 (57.6%)	8 (53.3%)	27 (100%)
	Yes	14 (42.4%)	7 (46.7%)	21 (100%)
Total		33 (100%)	15 (100%)	48 (100%)
Among Casa students with sibling help		No	Yes	Total
Difficulty with homework	No	8 (53.3%)	11 (50.0%)	19 (100%)
	Yes	7 (46.7%)	11 (50.0%)	18 (100%)
Total		15 (100%)	22 (100%)	37 (100%)

Section Three: Parent Breakdown

The 185 parents surveyed were asked for their annual household income, each parent’s education level² and their family size, among other things. The average education level for both parents was middle school and we found that there is a strong, positive, linear relationship between parent 1 and parent 2 education. From this, we can conclude that it is likely that the parents met at a young age, stayed together and started a family. Not only were parent 1 and parent 2 education levels correlated with each other, but they were also highly correlated with annual the household income. Specifically, the income bracket containing the plurality of parents, \$11,000-\$25,000, had the lowest average education level of elementary school. The level of significance of the aforementioned data is 1 percent.

Table 6.	Parent 2 Education				
Parent 1 Education	Grade School	Middle School	High School	College/ University	Total
Grade School	40 (72.7%)	12 (23.1%)	2 (4.4%)	0 (0%)	54 (100%)
Middle School	9 (16.4%)	24 (46.2%)	12 (26.7%)	3 (27.3%)	48 (100%)
High School	5 (9.1%)	16 (30.8%)	19 (42.2%)	5 (45.5%)	45 (100%)
College/ University	1 (1.8%)	0 (0%)	12 (26.7%)	3 (27.3%)	16 (100%)
Total	55 (100%)	52 (100%)	45 (100%)	11 (100%)	163 (100%)

Additionally, using this data in comparison with data from HHS.gov and citydata.com³, 59 percent of Casa’s families fall below the poverty line and 98 percent fall below the city’s average.

Table 7.	
Annual Income	Number of Families
\$0-\$10,000	26 (15.4%)
\$11,000-\$25,000	65 (38.5%)
\$26,000-\$35,000	52 (30.8%)
\$36,000-\$45,000	20 (11.8%)
\$46,000 or more	6 (3.6%)
Total	169 (100%)

¹ Stanford News, <http://news.stanford.edu/2014/03/10/too-much-homework-031014/>

²The education level means the highest level of education each parent has attended, not necessarily completed.

³HHS.gov was used to attain the national poverty level for varying family size. Citydata.com was used to acquire the annual household income in the city where the majority of the families live.

Section Four: Limitations and Future Work

This research was done with data that had already been collected by Casa de Amistad and no experiment was conducted, just analysis of the existing data. The major limitation we faced was directly correlating the student and parent data because the surveys were anonymous for confidentiality purposes. Moving forward, we plan to create a coding system that gives each parent and student a unique identification code composed of numbers and letters in order to match parents and students to make direct comparisons. This would make the conclusions of the research within family relationships stronger. To collect the matched data, we would create a new survey for the parents and students and use the new coding system. The survey questions would remain the same, but we would incorporate additions including, but not limited to gauging parents’ and students’ perceived benefits of Casa de Amistad.

The accuracy of the new data will allow Casa de Amistad to refine it’s four programs in order to maximize its positive affect on its participants. The Study Companions Program is Casa de Amistad’s main outreach program. It serves students in Kindergarten through 12th grade and offers guaranteed one-on-one tutoring up to second grade. There is also the Summer Enrichment Program where students have the chance to learn and explore art and science.

Casa de Amistad focuses on more than just academic success, but rather life success, as is present in their Character Development and Parents in Action programs. The Character Development Program is a monthly program with an emphasis on learning positive character traits through literature and local speakers. The Parents in Action Program gives parents the opportunity to learn positive parenting strategies, attend programs addressing community needs and leadership training. Getting the parents involved in a new program as Casa de Amistad has seen the immensely positive effects that parent participation can have on students’ personal and academic success.

Tables one and two show Casa de Amistad’s affects on student’s success with homework.

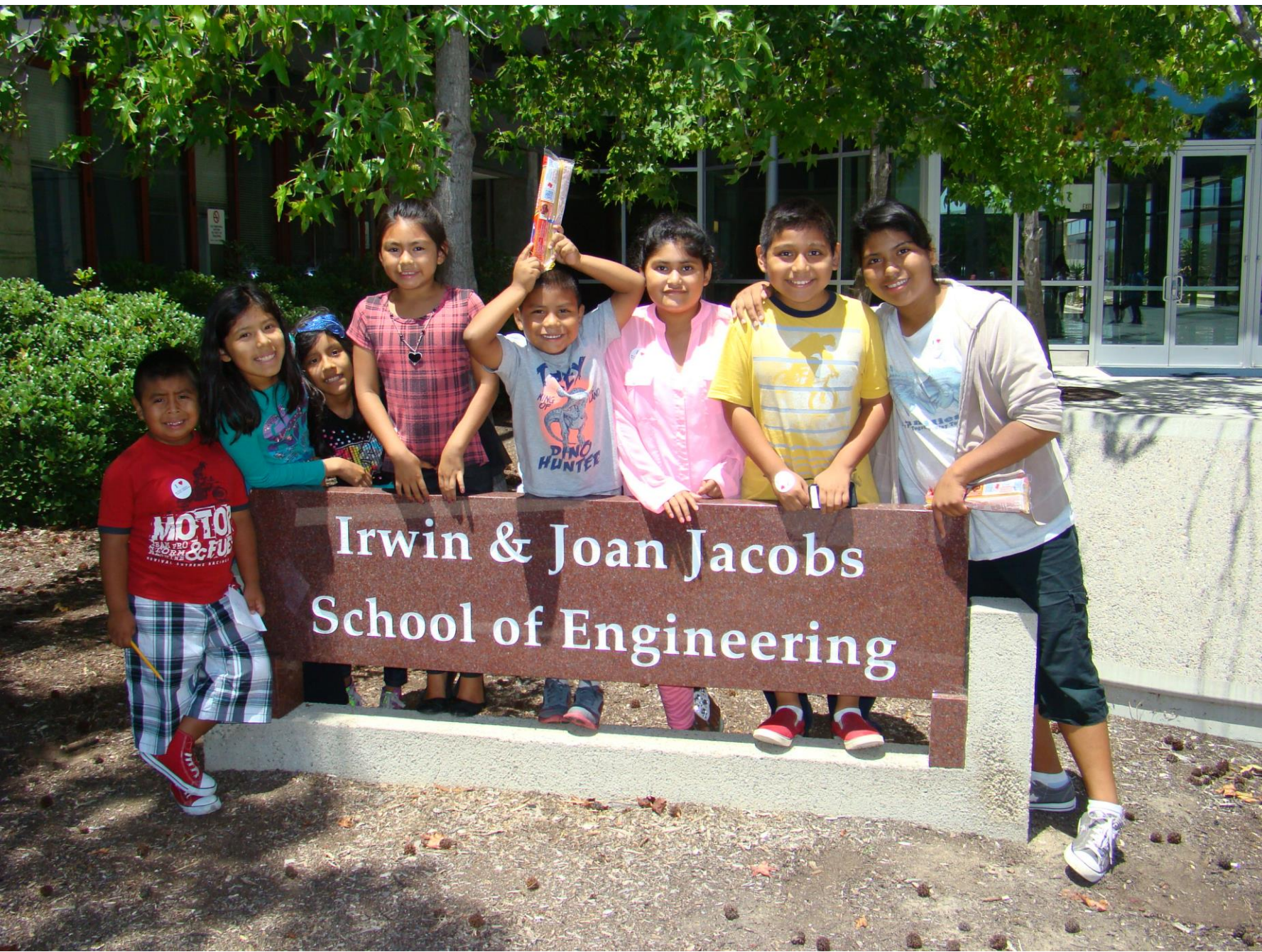
Table two’s p value is 0.0443. This suggests that there is a significant association between the students perceived success with being organized and their perceived success with homework.

Tables three and four break down students’ difficulty with math and science, respectively, and whether or not Casa de Amistad affects their success in said areas.

Table five shows the effects of parent involvement on student’s academic success.

Table six breaks down and compares parent 1 and parent two education level.

Table seven depicts participants’ annual house hold income and how many families are in each income bracket.



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